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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,717	04/27/2001	Arun Shah	68110328.714	9551

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PATENT DEPARTMENT
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EXAMINER
ABRISHAMKAR, KAVEH

ART UNIT	PAPER NUMBER
2131	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/844,717	SHAH ET AL.
	Examiner	Art Unit	
	Kaveh Abrishamkar	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 August 2005</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-14</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August

22, 2005 has been entered.

2.   Claims 1-14 are pending in the application. Claims 1 and 8 are currently

amended.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Thuraisngham et al. (U.S. Patent 5,355,474) in view of Hall et al. (U.S. Patent

5,675,785).

Regarding claim 1, Thuraisngham discloses:

A method for restricting access to information in a dimensional database, said method comprising:

receiving a request from a requester, said request associated with a plurality of request levels of a corresponding plurality of dimensions, the request levels being levels of dimensional hierarchies (column 4 lines 29 – 52); and

comparing each of the plurality of request levels with each of a corresponding set of security levels, the security levels restricting the levels of each dimensional hierarchy to which the requester is permitted access (column 4 lines 29 – 52).

Thuraisngham does not explicitly disclose that security is provided at fact and dimensional levels by defining different security levels for different facts. Hall discloses providing different security levels for different summary and fact tables, and also provides separate security levels for each summary level, providing dimensional security (column 8 lines 10-29). Hall and Thuraisngham are analogous arts because both provide for database security measures. Thuraisngham can use the fact level security of Hall as Thuraisngham already uses "content-dependent security constraints" (column 4 lines 30-32). These security constraints can be altered for different fact levels as disclosed by Hall to provide separate security for each level providing for "dimensional security" (column 8 lines 21-24). Furthermore, as stated in Hall, "this allows users request to see data summarized at some levels, but not others" (column 8

lines 21-27). Therefore, it would have been obvious to one of ordinary skill in the art at

the time of invention, to use the fact level security of Hall in conjunction with the multi-

level database security of Thuraisngham to provide for dimensional security and to

allow users to view only information at authorized levels providing for more secure

database management.

Regarding claim 8, Thuraisngham discloses:

A computer readable medium for storing a plurality of instructions for restricting

access to information in a dimensional database, said plurality of instructions

comprising:

receiving a request from a requester, said request associated with a plurality of

request levels of a corresponding plurality of dimensions, the request levels being levels

of dimensional hierarchies (column 4 lines 29 – 52); and

comparing each of the plurality of request levels with each of a corresponding set

of security levels, the security levels restricting the levels of each dimensional hierarchy

to which the requester is permitted access (column 4 lines 29 – 52).

Thuraisngham does not explicitly disclose that security is provided at fact and

dimensional levels by defining different security levels for different facts. Hall discloses

providing different security levels for different summary and fact tables, and also

provides separate security levels for each summary level, providing dimensional

security (column 8 lines 10-29). Hall and Thuraisngham are analogous arts because

both provide for database security measures. Thuraisngham can use the fact level

security of Hall as Thuraisngham already uses "content-dependent security constraints"

(column 4 lines 30-32). These security constraints can be altered for different fact levels

as disclosed by Hall to provide separate security for each level providing for

"dimensional security" (column 8 lines 21-24). Furthermore, as stated in Hall, "this

allows users request to see data summarized at some levels, but not others" (column 8

lines 21-27). Therefore, it would have been obvious to one of ordinary skill in the art at

the time of invention, to use the fact level security of Hall in conjunction with the multi-

level database security of Thuraisngham to provide for dimensional security and to

allow users to view only information at authorized levels providing for more secure

database management.

Claim 2 is rejected as applied above in rejecting claim 1. Furthermore, Thuraisngham

discloses:

The method of claim 1, further comprising:

retrieving the set of security levels from a plurality of sets of security levels,

wherein each of the plurality of sets of security levels are associated with at least one

requestor (column 3 lines 59 – 63).

Claim 3 is rejected as applied above in rejecting claim 1. Furthermore, Thuraisngham

discloses:

The method of claim 1, further comprising:

generating a query for the request with the request levels, wherein each of the plurality of request levels are equal or exceed each of the corresponding set of security levels (column 9 line 50 – column 10 line 13); and

generating a query with at least one of the security levels, wherein at least one of the security levels exceeds a corresponding one of the request levels (column 9 line 50 – column 10 line 13).

Claim 4 is rejected as applied above in rejecting claim 1. Furthermore, Thuraisngham discloses:

The method of claim 1, wherein the request is associated with one or more request constraints, and further comprising:

retrieving one or more security constraints (column 8 lines 30 – 59); and

comparing each of the request constraints to a corresponding one of the security constraints (column 25 line 55 – column 26 line 20).

Claim 6 is rejected as applied above in rejecting claim 1. Furthermore, Thuraisngham discloses:

The method of claim 1, further comprising:

determining whether the requester is in a restricted group (column 10 line 53 – column 11 line 65);

wherein the requester is in a restricted group, adding a request level to the request, wherein the added request level indicates that the requester is in the

restricted group (column 10 line 53 – column 11 line 65); and

wherein the requester is in an unrestricted group, adding request levels to the

request, wherein the added request level indicates that the requester is in the

unrestricted group (column 10 line 53 – column 11 line 65).

Claim 9 is rejected as applied above in rejecting claim 8. Furthermore, Thuraisngham

discloses:

The computer readable medium of claim 8, wherein the plurality of instructions

further comprising:

retrieving the set of security levels from a plurality of sets of security levels,

wherein each of the plurality of sets of security levels are associated with at

least one requester (column 3 line 59 – 63).

Claim 10 is rejected as applied above in rejecting claim 8. Furthermore, Thuraisngham

discloses:

The computer readable medium of claim 8, wherein the plurality of instructions

further comprising:

generating a query for the request, wherein each of the plurality of request levels

are equal or exceed each of the corresponding set of security levels (column 9 line 50 –

column 10 line 13); and

generating a query with at least one of the security levels, wherein at least one of

the security levels exceeds a corresponding one of the request levels (column 9 line 50

– column 10 line 13).

Claim 11 is rejected as applied above in rejecting claim 8. Furthermore, Thuraisngham

discloses:

The computer readable medium of claim 8, wherein the request is associated

with one or more request constraints, and the plurality of instructions further comprising:

retrieving one or more security constraints (column 8 lines 30 – 59); and

comparing each of the request constraints to a corresponding one of the security

constraints (column 25 line 55 – column 26 line 20).

Claim 13 is rejected as applied above in rejecting claim 8. Furthermore, Thuraisngham

discloses:

The computer readable medium of claim 8, wherein the plurality of instructions

further comprising:

determining whether the requestor is in a restricted group (column 10 line 53 –

column 11 line 65);

wherein the requester is in a restricted group, adding a request level to the

request, wherein the added request level indicates that the requester is in the restricted

group (column 10 line 53 – column 11 line 65); and

wherein the requester is in an unrestricted group, adding request levels to the

request, wherein the added request level indicates that the requestor is in the

unrestricted group (column 10 line 53 – column 11 line 65).

Claim 5 is rejected as applied above in rejecting claim 4. Furthermore, Thuraisngham

discloses:

The method of claim 4, further comprising:

generating the query wherein each of the request constraints is equivalent to the

corresponding one of the security constraints (column 10 lines 35 – 52); and

denying the request, wherein one of the request constraints is different from the

corresponding one of the security constraints (column 10 lines 35 – 52).

Claim 12 is rejected as applied above in rejecting claim 11. Furthermore,

Thuraisngham discloses:

The computer readable medium of claim 11, wherein the plurality of instructions

further comprising:

generating the query wherein each of the request constraints is equivalent to the

corresponding one of the security constraints (column 10 lines 35 – 52); and

denying the request, wherein one of the request constraints is different from the

corresponding one of the security constraints (column 10 lines 35 – 52).

4.   Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Thuraisngham et al. (U.S. Patent 5,355,474) in view of Hall et al. (U.S. Patent

5,675,785) further in view of Weissman et al. (U.S. Patent 6,212,524).

Claim 7 is rejected as applied above in rejecting claim 6. Furthermore, Thuraisngham

discloses:

    The method of claim 6, further comprising:

    determining one or more measures associated with the request (column 4 lines

29 – 52); and

    comparing each of the requested levels and the added levels to a corresponding

plurality of aggregate levels (column 2 lines 55 – column 3 line 7, column 4 lines 29 –

52).

Thuraisngham-Hall does not explicitly disclose selecting a stargroup associated with the

one or more measures associated with the request, wherein the stargroup further

comprises one or more stars. Weissman discloses the use of multiple stargroups in a

stargroup schema as a way to organize data (column 12 lines 24 – 48). Thuraisngham-

Hall discusses a dimensional database, but does explicitly state that it must be in a star

scheme. Weissman states, "in a dimensional datamart, the data is typically organized

as a star schema" (column 2 lines 26 – 33). Weissman further states, "the advantage of

such a scheme is that it supports a top down business approach to the definition of the

schema" (column 2 lines 35 – 40) and also "consistent and flexible" (column 2 lines 42 –

44). It can be seen that the security method disclosed by Thuraisngham-Hall can be

used in conjunction with the star schema disclosed by Weissman, by the disclosure by

Weissman that "in some embodiments of the invention, the metadata also includes

security information" (column 8 lines 21 – 25). Weissman further states "the security

information defines the level of access for various users to the various tables and fields

in the datamart" (column 8 lines 21 – 25). This provides a top level view of the invention

of Thuraisngham-Hall, which uses security information which automatically restricts

access to the data. Therefore, it would have been obvious to one of ordinary skill in the

art at the time the applicant's invention was made to combine the security method

disclosed by Thuraisngham-Hall with the star schema used by Weissman to provide a

top down approach to the definition of schema, and to use a scheme that is both

consistent and flexible.

Claim 14 is rejected as applied above in rejecting claim 13. Furthermore,

Thuraisngham discloses:

The computer readable medium of claim 13, wherein the plurality of instructions

further comprising:

determining one or more measures associated with the request (column 4 lines

29 – 52);

comparing each of the requested levels and the added levels to a corresponding

plurality of aggregate levels (column 2 lines 55 – column 3 line 7, column 4 lines 29 –

52).

Thuraisngham-Hall does not explicitly disclose selecting a stargroup associated with the one or more measures associated with the request, wherein the stargroup further comprises one or more stars. Weissman discloses the use of multiple stargroups in a stargroup schema as a way to organize data (column 12 lines 24 – 48). Thuraisngham-Hall discusses a dimensional database, but does explicitly state that it must be in a star scheme. Weissman states, "in a dimensional datamart, the data is typically organized as a star schema" (column 2 lines 26 – 33). Weissman further states, "the advantage of such a scheme is that it supports a top down business approach to the definition of the schema" (column 2 lines 35 – 40) and also "consistent and flexible" (column 2 lines 42 – 44). It can be seen that the security method disclosed by Thuraisngham-Hall can be used in conjunction with the star schema disclosed by Weissman, by the disclosure by Weissman that "in some embodiments of the invention, the metadata also includes security information" (column 8 lines 21 – 25). Weissman further states "the security information defines the level of access for various users to the various tables and fields in the datamart" (column 8 lines 21 – 25). This provides a top level view of the invention of Thuraisngham-Hall, which uses security information which automatically restricts access to the data. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to combine the security method disclosed by Thuraisngham-Hall with the star schema used by Weissman to provide a top down approach to the definition of schema, and to use a scheme that is both consistent and flexible.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kaveh Abrishamkar whose telephone number is 571-

272-3786. The examiner can normally be reached on Monday thru Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

KA
11/10/2005

Primary Examiner
AU 2131
11/14/05